REMARKS

I. STATUS OF CLAIMS

Without prejudice or disclaimer, claims 95, 100, 105, 123, 128, 129, 132, 138, 142, 168, 171, 173, 176, 182, 189, 197, 202, 206, 208, 214, 215, and 216 are amended as shown, and claim 104 is canceled in view of the amendment to claim 95. Accordingly, claims 95-101, 103, and 105-216 are pending. Exemplary support for the claims as-amended can be found in the specification and claims as filed; *see, e.g.,* the specification as-published (U.S. Patent Application Publication No. 2006/0134044) at ¶¶ [0025] and [0217]. Thus, the claims as amended have written description support.

Claim 208 is amended by replacing "Cosmetic" with "cosmetic" solely to correct an inadvertent capitalization error.

The Office queries whether the feature "devoid of styrene" should be recited in claims 100 and 216. Office Action of September 2, 2009 ("Office Action") at 2. Applicant replies that these claims have their intended language.

II. REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

1) Standard NF-T-30-016

The Office rejects claims 95-99, 101, and 103-215 as allegedly indefinite because they refer to or depend from a claim that refers to an allegedly unfixed standard that could change. Office Action at 2-3. Applicant respectfully traverses; however, solely to facilitate prosecution and without acquiescing to the Office's rationale, Applicant amends independent claims 95, 206, 214, and 215 to recite, "the hardness of the film being measured using a Persoz pendulum according to the

December 1991 version of Standard NF-T-30-016." See the specification as published at ¶ [0217].

2) Hansen's solubility parameter

The Office alleges that the claims reciting values of Hansen's solubility parameters are unclear as to whether the superscript 1/2 denotes the square root of the units or both the units or the numbers. Office Action at 3.

Applicant respectfully traverses. Applicant respectfully points out that each recitation of values of Hansen's solubility parameter is in the form, "a compound having a solubility parameter δ_h ranging from X to Y $(J/cm^3)^{1/2}$" where X and Y stand in for the numerals recited in any of the claims at issue. The superscript 1/2 immediately follows (J/cm^3), and therefore operates only on the parenthesized material, i.e., the units, not the numerals. That is consistent with the notation in the specification; *see id.* (as-published) at ¶ [0220], for example.

That is also consistent with standard mathematics, in which, for example, the expression $9(4)^{1/2}$ would evaluate as 18 (the product of 9 and the square root of 4), not 6, because the 9 is not within the parentheses to which the superscript 1/2 is appended. Applicant respectfully submits that one of ordinary skill in the art would not be confused by this claim language because he would be familiar with the rules of standard mathematics. Thus, Applicant respectfully submits that the claims are not indefinite for this reason.

3) **Claims 132, 135, 137-139, 142, 165, 168, 173, 175-178, 181, 182, 189, 193, 196, and any others containing "chosen from"**

The Office alleges that these claims are indefinite for using non-standard Markush language. Office Action at 3.

Applicant respectfully traverses. Markush-type claims using "selected from the group consisting of" language mentioned by the Office are but one acceptable type of claim. *See* M.P.E.P. § 2173.05(h). These claims recite the general phrase "X chosen from A, B, and C." That phrase is proper language and more accurately describes the claimed invention, e.g., the block recited in claim 135 results from at least one of the listed monomers. For example, the block may result from methyl methacrylate, isobornyl methacrylate, both methyl methacrylate and isobornyl methacrylate, or another permutation involving at least one of the recited monomers.

Although the Office cites no legal basis for this rejection beyond 35 U.S.C. § 112, second paragraph—and the statute certainly does not require "selected from the group consisting of" language—the Office appears to be relying on M.P.E.P. § 2173.05(h). However, that section merely recites examples of proper claim language, which may be representative but are not exclusive. M.P.E.P. § 2173.05(h) ("when materials recited in a claim are so related as to constitute a proper Markush group, they may be recited in the conventional manner, **or alternatively**." Emphasis added.).

Thus, it is clear that there is no reason for the Office to require Applicant to change the claim language of these claims. Accordingly, Applicant respectfully submits that the claims are not indefinite for this reason.

4) Claims 128 and 138

The Office alleges that claims 128 and 138 are confusing for reciting that "at least one heteroatom . . . is optionally inserted." The Office states that confusion results from the use of "optionally" with "at least one" which allegedly conveys non-optional insertion. Office Action at 3.

Applicant respectfully traverses; however, solely to facilitate prosecution and without acquiescing to the Office's rationale, Applicant amends the claims to replace "at least one" with "one or more". Applicant respectfully submits that the phrase "one or more" does not convey non-optional insertion in the context of claims 128 and 138, and that the claims as amended are not indefinite for this reason. Applicant also notes that nouns now modified by "one or more" and the verbs predicate to those nouns have been changed from singular to plural in these claims solely to maintain grammatical agreement with the phrase "one or more". The claims continue to encompass embodiments in which zero heteroatoms or one heteroatom is inserted in the group at issue.

5) Claim 128

The Office alleges that claim 128 is indefinite for using the phrase "such as". Office Action at 3-4. Claim 128 is amended to remove that language. Applicant respectfully submits that claim 128 as amended is not indefinite.

6) Claim 129

Claim 129 stands rejected as allegedly indefinite for lacking antecedent basis for "the tert-butyl group." Office Action at 4. Claim 129 has been amended to recite "a tert-butyl group." Applicant respectfully submits that claim 129 as amended is not indefinite.

7) Claim 142

Claim 142 stands rejected as allegedly indefinite for being confusing with respect to the phrase "at least one monomer chosen from (meth)acrylic acid esters from at least one monomer chosen from (meth)acrylic acid, and their mixtures." Office Action at 4. Claim 142 has been amended to replace the second "from" in the above phrase with "and" in accordance with the Examiner's suggestion. Applicant respectfully submits that claim 142 as amended is not indefinite.

8) Claim 171

Claim 171 stands rejected as allegedly indefinite for lacking antecedent basis for "the carboxylic acid". Office Action at 4. Claim 171 has been amended to depend from claim 162, which recites "at least one carboxylic acid"; claim 171 has also been amended to recite "the at least one carboxylic acid" solely to use parallel language to that of claim 162, which recites "at least one carboxylic acid". Applicant respectfully submits that claim 171 as amended is not indefinite.

9) Claim 173

Claim 173 stands rejected as allegedly indefinite for the same reason as claim 171. Office Action at 4. Claim 173 has been amended in a manner parallel to that of claim 171. Applicant respectfully submits that claim 173 as amended is not indefinite.

10) Claim 182

Claim 182 stands rejected as allegedly indefinite for using quotation marks with "polar groups." Office Action at 4. Applicant respectfully traverses; however, solely to facilitate prosecution and without acquiescing to the Office's rationale, claim 182 has been amended to recite "said polar group" (without quotation marks) in accordance with

the Office's suggestion. Claim 182 is also amended to change nouns and verbs from plural to singular as shown solely to maintain grammatical agreement with "said polar group". Applicant respectfully submits that claim 182 as amended is not indefinite.

11) Claim 197

Claim 197 stands rejected as allegedly indefinite for not reciting "further" before comprising. Office Action at 4. Claim 197 has been amended to recite "further" in accordance with the Office's suggestion. Applicant respectfully submits that claim 197 as amended is not indefinite.

For the reasons above, Applicant requests that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

III. REJECTION UNDER 35 U.S.C. § 103

Claims 95-101 and 103-216 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over U.S. Application Publication 2002/0115780 (2002; "Mougin") in view of U.S. Patent No. 6,905,696 ("Marotta"), HCAPLUS Abstract 1964:70247 (1961; "Klausmeier"), Flick, E.W., *Cosmetics Additives an Industrial Guide* p. 266 (1991; "Flick"), and U.S. Application Publication 2002/0064539 ("Phillippe") for the reasons of record. Office Action at 5-14.

As an initial matter, Applicant notes that Marotta, filed January 6, 2003, is not necessarily prior art against the instant application in view of the September 26, 2002, and December 20, 2002, filing dates of priority applications FR 02/11949 and FR 02/16437, respectively. Applicant does not presently rely on said priority dates to disqualify Marotta but reserves the right to do so in the future.

Applicant respectfully disagrees with and traverses this rejection. However, by this Amendment, Applicant has amended independent claims 95, 100, 206, 214, 215, and 216. To the extent, however, that the Office may consider rejecting amended independent claims 95, 100, 206, 214, 215, and 216 based on the cited references, Applicant respectfully submits that the cited references, taken as a whole, fail to establish a prima facie case of obviousness with respect to the subject matter recited in amended independent claims 95, 100, 206, 214, 215, and 216 for the reasons below.

Claim 95 as amended and the other independent claims as amended recite, *inter alia,* at least one block polymer having a polydispersity index I of greater than 2. The Office alleges, "[k]eeping in mind that this index is a ratio of conventionally obtained M_n and M_w values, wherein a ratio such as greater than 2 or more is indicative of a smaller number of lower molecular weight polymers, such index values would have been suggested by the motivation to synthesize predictably similar batches of target copolymers with desired properties." *Id.* at 11. Applicant disagrees with the Office's allegation about what the polydispersity index is, what it represents, and motivation regarding modifying the index, as is explained below. Furthermore, Applicant respectfully submits that none of Mougin or the secondary references has been shown to disclose or suggest a cosmetic product comprising a composition comprising a film-forming linear ethylenic block polymer that has a polydispersity index I of greater than 2 and also meets all other limitations of the claims as amended.

The polydispersity index (PDI) is a structural attribute of a polymer[1]. Notably, two polymers made of the same monomers can have different PDIs. "The polydispersity index I of the polymer is equal to the ratio of the weight-average mass Mw to the number-average mass Mn." Specification as-filed at [063]. Mw and Mn differ when individual polymer molecules in a polymer have different masses, which can result from individual polymer molecules containing different numbers of monomers. (On the other hand, when all individual polymer molecules in a polymer have the same mass, Mw and Mn are the same, and therefore the PDI is unity.)

The polymer of Mougin's Example 2 has a Mn of 88,000 g/mol and an Mw of 102,000 g/mol (*see id.* at [0183]), meaning that the PDI of this polymer is 1.16. This is the only Example with disclosed Mw and Mn values that Applicant can identify in Mougin. There is no teaching or suggestion of a polymer with a PDI greater than 2 in Mougin, and the Office has not provided any valid evidence to show that it would be obvious to modify Mougin with respect to PDI, which is a measure of variability, as is discussed below. In particular, the Office presents no explanation of how the alleged motivation to make predictably similar (i.e., less variable) batches would lead one of ordinary skill to modify Mougin by increasing the variability of the population of polymer molecules.

Mn represents what is commonly considered an average molecular weight, i.e., it represents the sum of the weights of the polymer molecules divided by the number of molecules. Mn can be expressed as $\Sigma(w_i) / n$, where n is the number of molecules in

[1] The word "polymer" is used in a collective sense; when individual polymer molecules are discussed herein, they are explicitly referred to as such.

the composition, e.g., in moles, and w_i are the weights of molecules present in the composition. Mw is a distinct quantity, in that the molecules in the polymer contribute to the value according to their weight instead of their number. Mathematically, Mw can be expressed as $\Sigma(w_i^2) / \Sigma(w_i)$. (Note that in practice, Mw and Mn can be measured experimentally, as is described in the specification. *See id.* at [064].)

Mw is greater than Mn when the weights of the individual polymer molecules in a composition are not uniformly identical, and therefore the PDI is greater than one. The more heterogeneous the weights, the greater the PDI. Thus, a higher PDI reflects greater variability between individual polymer molecules. This is explained in greater detail below. Applicant respectfully submits that contrary to the Office's allegation, an ordinary artisan would not be motivated to synthesize polymers meeting the claimed limitations including having PDI greater than 2 in view of the cited references, because the references are silent regarding PDI and having individual polymer molecule variability such that the PDI is greater than 2 is inconsistent with or irrelevant to a motivation to make predictably similar batches.

PDI as a measure of variability is illustrated in a simple example below. In this example, an arbitrary monomer, represented as a dash, is used which has a molecular weight of *x* per residue. Coefficients are rounded to the hundredths position where applicable.

Representative individual polymer molecules	-------- -------- -------- --------	--- ----- ---------- ----------	-- --- ---- ----------
Degree of heterogeneity	none	some	more
Mn	8 *x*	8 *x*	8 *x*
Mw	8 *x*	10.31 *x*	17.44 *x*
PDI	1	1.29	2.18

The first column shows a polymer whose individual polymer molecules have identical lengths and weights. This polymer has a PDI of unity. The second column shows a polymer with the same number-average mass Mn as the first column, but wherein there is some heterogeneity in the length and therefore the weight of individual polymer molecules. As discussed above, Mw is greater than Mn for this polymer, and the PDI is consequently greater than unity. In the third column, the number-average mass Mn of the polymer remains the same as in the other columns, but the length and weight heterogeneity is greater still, resulting in higher Mw and PDI values. Thus, even if polymers are made of the same monomer, they can have different PDIs. If they have different PDIs, the polymers are not structurally identical and they do not necessarily have the same properties.

Accordingly, the claimed compositions comprise polymers with a structural feature that is not taught or suggested by the cited references, because the claimed cosmetic products comprise a polymer with a PDI greater than 2, whereas the polymers of Mougin do not.

Thus, Applicant respectfully submits that the claimed cosmetic products are not obvious over Mougin in view of the cited secondary references because neither Mougin nor the any of the secondary references teaches or suggests a cosmetic product

comprising a composition comprising a polymer that meets the limitation of having a polydispersity index greater than 2, along with all other limitations.

Additionally, claim 95 and the other independent claims recite that the at least one block polymer comprises at least one first and at least one second block, wherein the at least one first block and the at least one second block are connected to one another via an intermediate block comprising at least one constituent monomer of the at least one first block and at least one constituent monomer of the at least one second block, and further wherein the intermediate segment is a random copolymer block. The Office has not explained how Mougin or any of the secondary references teach or suggest a polymer with such an intermediate block.

Instead, the Office merely cites paragraph [0038] of Mougin, which allegedly discusses random blocks but suggests neither that the random block connect at least one first block and the at least one second block nor that it comprise at least one constituent monomer of the at least one first block and at least one constituent monomer of the at least one second block. Moreover, none of the Examples of Mougin possess a random block at all, nor do any of the secondary references even mention random blocks. Thus, it seems to be merely opinion, not evidence, that leads the Office to allege that the claimed compositions would be obvious to one of ordinary skill. Applicant respectfully submits that this is insufficient to support an obviousness rejection, and points out that "[i]f the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2)." M.P.E.P. § 2144.03(C). Applicant respectfully

submits that the rejection over Mougin and the secondary references is also deficient for this additional reason.

For the above reasons, withdrawal of the rejection over Mougin in view of Marotta, Klausmeier, Flick, and Philippe is respectfully requested.

IV. DOUBLE PATENTING REJECTIONS

The Office rejects the pending claims under the judicially-created doctrine of obviousness-type double patenting on eight different grounds. For brevity, the secondary references, which are the same as for the 35 U.S.C. § 103 rejection discussed above, are not specifically named:

(1) claims 95-101, 103-214, and 206-216 are provisionally rejected over claims 78-167 of copending Application No. 10/528,699 in view of the secondary references (Office Action at 15);

(2) claims 95-101 and 103-216 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 85-184 of copending Application No. 10/528,835 in view of the secondary references (Office Action at 19);

(3) claims 100 and 216 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over selected claims of copending Application No. 10/529,218 in view of secondary references (Office Action at 20);

(4) claims 95-101, 103-204, and 206-216 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over

claims 77-80, 83-94, 97-107, 109-161, and 165-174 of copending Application No. 10/529,266 in view of the secondary references (Office Action at 22);

(5) claims 95-101, 103-204, and 206-216 are provisionally rejected on the ground of nonstatutory Obviousness-type double patenting as being unpatentable over claims 87-189 of copending Application No. 10/529,267 in view of the secondary references (Office Action at 24);

(6) claims 95-101, 103-204, and 206-216 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-92 of copending Application No. 10/585,817 in view of thd secondary references (Office Action at 26-27).

(7) claims 95-101, 103-204, and 216-216 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-88 of copending Application No. 10/585,818 in view of the secondary references (Office Action at 29); and

(8) claims 95-101 and 103-216 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 8-9, and 12-140 of copending Application No. 10/949,448 in view of the secondary references (Office Action at 31).

Applicant presently does not traverse the double patenting rejections and presently plan to file appropriate Terminal Disclaimer(s) when allowable subject matter is indicated.

V. CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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